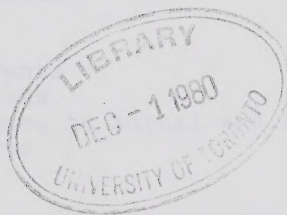# ONTARIO OPERATING FORMULA MANUAL

DESCRIBING THE ONTARIO OPERATING GRANTS
FORMULA AS REVISED AND AMENDED
TO AUGUST, 1979

UNIVERSITY AFFAIRS DIVISION
MINISTRY OF COLLEGES AND UNIVERSITIES
TORONTO, ONTARIO

FOREWORD

In the case of conflict between this manual and any other
document referred to by this manual, rulings and
interpretations of the manual will, in the first instance,
prevail. Any conflicts should be brought to the attention
of the Assistant Deputy Minister, University Affairs Division,
Ministry of Colleges and Universities.

I N D E X

I GENERAL

1. Historical Background to the Introduction of the Formula

The idea of devising an objective mechanism to allocate operating grants to Ontario universities was deliberated for many years. A strong endorsement of this principle came from the 1965 Bladen Commission report on the financing of higher education, with the result that the Ontario Operating Grants Formula was given final approval in November 1966, in time for the calculation of the 1967-68 grants.

A Subcommittee on Finance, organized by the Committee on University Affairs, the government's advisory body, worked closely with a Subcommittee of the Committee of Presidents of Ontario Universities to reach general agreement with regard to the categorization and weighting of various programs, the general principles surrounding the type and construction of the recommended formula and the methods of its operation. Detailed recommendations were then discussed with the Committee of Presidents who expressed accord with them, subject only to a concern for continuing review.

2. The Purpose of a Formula

The purpose of a formula is to provide an objective mechanism for determining the share of the Provincial operating grant to be allocated to each university. It is frequently pointed out that universities are spending institutions and that there is virtually no upper limit to what they can spend on improved teaching, more extensive research and the facilities which these functions involve. These comments are made to emphasize

that, although a formula will ensure a reasonable
degree of equity in the distribution of monies,
it will not, in itself, ensure an adequate level
of support.

It should also be noted that the kind of formula
described here is not intended to limit or
control the expenditure of funds granted to the
universities, but merely to determine for each
university an amount comprised of the formula
grant and fee income, out of which may be paid
any eligible university operating expenditure,
i.e. all operating expenditures except those -

(a) in connection with assisted/sponsored research,
(b) for principal and interest payments on capital
    indebtedness,
(c) for student aid,
(d) for ancillary enterprises,
(e) for capital projects.

Many kinds of formulae, some of them highly
involved and complicated, have been devised in
other jurisdictions. In Ontario the formula
adopted reflects a concern for continuing
university autonomy in its internal management.
Consistent with this concern, a relatively simple
pattern of weighted enrolment has been adopted,
but without sacrificing the objective of a
reasonable degree of equity of grant distribution.

3. The Advantages of a Formula

      The Formula
    3.1 buttresses the independence of universities
        by ensuring a basic income to each institution
        without the close scrutiny of operating
        budgets necessarily involved in subjective
        review.

3.2 provides a more certain basis for university
    planning and gives universities maximum
    incentive for effective management.

For the universities, these advantages are obvious
and compelling. From the standpoint of the
Government, the formula provides similar
attractions.

3.3 obviates the necessity for detailed scrutiny
    of university operating submissions. The
    granting body can thus turn more of its
    attention and energy to major questions
    of the overall level of support, the
    co-ordination of long-range planning, the
    impact of predicted enrolment patterns in
    the next several years and other special
    concerns which may not be adequately
    handled by the formula system.

3.4 provides equitable treatment. Justice is
    not only done, but is seen to be done.

3.5 ensures private donors that gifts for
    operating purposes will be an added
    resource of the university and not a
    substitute for public support. It must
    be the purpose of any granting authority
    to encourage response to university
    initiatives in seeking extra support from
    local governments and private sources,
    subject only to the government's concern
    that short term unendowed funding might
    create ongoing requirements which the
    government would be unable to support
    should private funding lapse.

4. Difficulties and Objections to a Formula

4.1 A single formula devised to distribute
Provincial grants to universities cannot
be expected to be a panacea for all the
problems which arise in the relations
between universities and the Government.
Most of the possible objections to the
formula have not related to its objectives
but to perceived inadequacies in achieving
the objectives. To respond appropriately
to the requirements of a diverse group of
institutions offering various combinations
of programs necessitates some subjective
decisions in providing supplemental support.

4.2 It was feared that a mechanical system
of distributing grants would produce
mediocrity and/or uniformity in all
universities. This could be a danger only
if the level of government support were not
high enough to maintain quality or if the
individual institutions failed to use their
grant support imaginatively. By not
including private endowment income as part
of the grant calculation, the formula
encourages prospective donors to give
support for particular projects and special
areas of excellence since their funds do not
reduce the level of government support.

4.3 It should be understood that the formula
does not attempt to achieve an equitable
distribution of total income. Rather it
aims only to ensure a reasonable distribution
of government funds. To the extent
institutions are able to obtain extra
funding the total income may be more or less
equitably distributed among the institutions.

In spite of the difficulties and objections noted
above, the formula has come to be accepted as
a reasonably equitable means of distributing
Provincial grant support to Ontario universities.

5. Extra-Formula Grants

A simple formula such as Ontario's, cannot adequately
cover the special circumstances at each of the insti-
tutions. Therefore, in addition to formula grants,
based on eligible enrolment, other Provincial grants
for university operating expenditures are provided
to certain universities that require special assistance
due to their location, bilingual teaching, or other
exceptional circumstance. Normally, these extra-
formula grants are recommended by the Ontario Council
on University Affairs and furnished as agreed to by
the Minister.

(a) Teacher Education

For the first four years after transfer to the
universities, support towards university teacher
education programs formerly operated by the
Ministry of Education, has been provided on the
basis of a review of their operating budgets.
During this period, however, students were
included in the enrolment reports on which formula
funding was based. The extra-formula support pro-
vided was beyond the normal formula revenues.

(b) Capital

Normal repair, maintenance and replacement of the
physical resources of each institution is to be
financed from the regular operating grants.
Funding for major capital projects i.e. those
in excess of $25,000 per project is provided
through separate annual allocation of capital
moneys made available by the Provincial treasury.
At the Minister's discretion these funds may be
provided towards emergencies, new construction
projects that remedy a serious space deficiency
renovations, alterations and replacement projects
meeting criteria such as code requirements,

operating cost savings, energy savings,
encouragement of more effective use of space,
age-quality corrections or historical signifi-
cance.

6. The Formula: Basic Principles

   The following points are the basis on which the formula
   was constructed:

   6.1 The formula should be as simple as possible, con-
   sistent with achieving its objective.

   6.2 The formula is intended to operate in such a way as
   to allow each university as sure a knowledge of its
   income as possible for planning purposes. The "slip-
   year" financing method, which bases formula grants
   on the enrolment of the immediately preceeding year,
   was introduced in 1973-74 to give lead time to adjust
   to the financial consequences of enrolment fluctuations
   The enrolment averaging introduced for undergraduate
   programs in 1976-77 and graduate programs in 1979-
   80 is a further attempt to moderate the financial
   effects of fluctuating enrolment.

   6.3 The formula is a revenue generating device only and
   is not intended to be a pattern for internal allocation

   6.4 Formula fees are included in the Ontario formula for
   several reasons. It gives the government an oppor-
   tunity to consider (a) the total basic income of
   the institutions in setting its own support levels
   and (b) the impact that fee changes have upon the
   government's student assistance scheme and acces-
   sibility of students. Ontario Universities, through
   their governing Acts, have full legal authority to
   establish their own fee levels. Consequently, the
   formula fees employed by the government in the grant
   calculation and the actual tuition fees charged by
   the universities need not be, and indeed in many
   instances are not, identical. However, the univer-
   sities have co-operated with the government in the
   common interest of achieving student accessibility
   by keeping their fees within reasonable levels.

6.5 Provision for a periodic review of the formula
existed from its inception, and was emphasized in the
original "formula document" published in January, 1968.
Several small-scale reviews have been attempted over
the years and amendments have been made.

7. Categorization and Weighting

Categories of enrolment have deliberately been kept as few as
possible. One basic income unit is intended to provide for
two terms of general degree work offered in a liberal arts
program. Work in honours, professional and graduate programs
is related on a rough cost basis to this basic core.

The inclusion of the first year of an honours program in
Category 1 does not necessarily reflect its cost or
importance when compared to the first year of programs include
in higher categories. The latter are represented in such
higher categories as an integral part of the average cost of
the four-year program in the respective disciplines.

Table of Categories for Determining Basic Income Units
Undergraduate, Diploma and First Degree

Category 1   Weight 1

First year Honours Arts and Science and Social Work
Undergraduate Diploma Courses, other than those
  specifically listed below or otherwise provided for
  in Annual Essential Notes and Instructions.
General Arts
General Science
Journalism
Pre-Commerce and Business Administration
Pre-Medicine
Secretarial Science
Theology - both degree and diploma

Category 2   Weight 1.5

Upper years Honours Arts (including "make-up" year)
Art as Applied to Medicine (University of Toronto)
Commerce and Business Administration
Fine and Applied Arts
Law
Library Science (including "make-up" year)

Physical Education

Physical and Occupational Therapy - both degree
  and diploma

Social Work - upper years only

Category 3   Weight 2

Upper years Honours Science (including "make-up"
year)

Agriculture

Architecture

Education - both elementary and secondary (see
            special section on teacher education
            for weights assigned for "phase-in"
            period of programs transferred from
            teachers' colleges)

Engineering

Environmental Studies

Food and Household Sciences

Forestry

Hygiene and Public Health

Industrial Design (Carleton)

Music - both degree and diploma

Nursing

Pharmacy

Dental Hygiene - diploma course

Public Health Nursing - diploma course

Category 4   Weight 5

Dentistry

Medicine (except years 2 and 3 of McMaster 3 Year
Program)

Veterinary Medicine

Miscellaneous Undergraduate Programs which do not
fall into the above Categories

Approved Preliminary Year Programs	0.7
Engineering and Forestry Technology (Lakehead University)	1.2

All undifferentiated undergraduate
 programs in the Faculty of Arts and
 Science at the University of Toronto,
 Scarborough College and Erindale

College		
	1972-73 to 1975-76	1.24
	1976-77 and 1977-78	1.279
	1978-79 and 1979-80	1.326

Four Year Concurrent Teacher Education Program	1.25
Engineering and Management - Years 2 and 4	1.5
- Years 1, 3 and 5	2.0

York (all undergraduate excluding Law) - between
  1976-77 and 1978-79 - 1.284 - regular weighting
  before 1976-77 and for 1979-80.

OISE Programs:

Certificate in Adult Education (qualifying or make-up year)	1.0
Master of Arts	1.5
Master of Education - 10 unit (without Honours)	2.0
Ryerson: (1974-75 - 1.22) All programs since 1975-76	1.3
Ontario College of Art (since 1976-77)	1.3
Medical Interns and Residents (three terms)	2.5
Optometry (Years 2-5)	3.0
McMaster 3 Year Medicine Program - Years 2 and 3 only	7.5

Graduate

Note: All graduate Theology Programs - at a weight
     of ½ per term

Category 5   Weight 2 (or 1 per term)

Master's Level (and First-Year Ph.D direct from
  Baccalaureate)

Commerce and Business Administration

· Hospital Administration

Journalism

Public Administration

Category 6   Weight 3 (or 1 per term)

Master's Level (and First-Year Ph.D direct from
  Baccalaureate)

Criminology

Education

Fine and Applied Arts

Library Science (other than "make-up" year)

Law

Humanities

Mathematics

Physical and Health Education

Physio and Occupational Therapy
Social Sciences
Master of Philosophy (M.Phil.)
All Specialist Graduate Diploma Courses

Category 7   Weight 4 or 1 1/3 per term
Master's Level (and First-Year Ph.D. direct
  from Baccalaureate)
Agriculture
Architecture
Art Conservation
Child Study
Dentistry
Engineering
Environmental Studies
Food and Household Science
Forestry
Geography
Hygiene and Public Health
Medicine
Music
Nursing
Pharmacy
Physiological Optics
Psychology
Science (Physical and Biological)
Social Work
Urban and Regional Planning
Veterinary Medicine

Category 8   Weight 6 or 2 per term
All Ph.D. (except First-Year Ph.D. direct
  from Baccalaureate)

8. Notes on the Categorization and Weighting Table

    8.1 Caveats

The categorization scheme does not pretend to reflect precisely the relative costs or the relative importance of each program at every university. There is no intention that the relationships suggested in the categorization table should be reflected in detail in the spending of any university. The formula was designed to produce a reasonably equitable overall distribution of basic government grants and was never intended to be a pattern for spending.

The formula weights do not reflect the very important difference in costs among various subjects within a given program or among program years. These differences are averaged out in the weighting process given the relatively simple income distribution purposes of the formula.

    8.2 "Other Graduates" as shown in Category 6 includes all graduate degree and diploma programs not specifically covered in the descriptions of other categories.

    8.3 Students in the upper years of honours undergraduate work in psychology, geography and mathematics shall be included in Category 3 (weight 2.0) since costs of undergraduate honours work in these subjects appear to be, on the average, similar to costs in honours science. At the Master's level however, mathematics would seem to be more appropriately grouped with the humanities and social sciences and is therefore included in Category 6 (weight 3.0), while psychology

and geography, because of laboratory and field
work requirements, are again classed with
science and engineering in Category 7 (weight 4.0).

9. Program Approval Policy

9.1 Undergraduate

In his letter of August 1, 1974, the Minister
outlined to each university president the
policy on undergraduate program approvals as
follows:

(1) New undergraduate programs leading to a
degree or diploma which can be financed
solely from formula grants plus fees do
not need approval of the Ministry to be
eligible for formula support.

(2) New programs which do not have a formula
weight already assigned must be submitted
to the Ministry which will ask the OCUA
for a recommendation. Final approval of
any new weight or weight revision will
remain with the Minister.

(3) Any new program requiring extra formula
support must be discussed with the OCUA
and receive the Minister's approval before
starting. No obligation is assumed by the
Government to pay extra formula grants if
prior approval has not been granted.

(4) Programs requiring new facilities should be
mounted only if they can be accommodated
within existing available university facilities.

(5) Notwithstanding items 1 through 4 above, all
health science disciplines require Ministry
approval.

(6) New professional programs will be considered
for approval only after an OCUA recommendation
has been received and the professional association
which accredits the program or its graduates
has been consulted.

Ryerson and OCA, however, require Ministerial
approval for financing for all programs.

9.2 Graduate

On all graduate programs the policy for program approval requires the recommendation, after the appropriate ACAP and OCGS requirements have been fulfilled, of the Council of Ontario Universities to the OCUA. The OCUA will then pass its recommendation on to the Minister for final approval. All approvals will be subject to any embargo, freeze, etc. that may be in effect at the time.

9.3 Theological Colleges

Any institution which has not affiliated, as outlined on page 21, cannot claim as eligible any student enrolled in a program introduced since September 1, 1967. Government funding responsibility for theological colleges relates only to those programs and institutions in existence on September 1, 1967, unless written approval from the Ministry for additional programs or institutions is obtained.

10. Eligible Institutions

The following institutions are eligible to claim support as outlined in this document subject to any limitations that may subsequently be imposed by the Minister or his designate:

Brock University

Carleton University

University of Guelph

Lakehead University

Laurentian University
  Algoma College
  Nipissing College
  College de Hearst
  Thorneloe University
  University of Sudbury
  Huntington College

McMaster University
  McMaster Divinity College

University of Ottawa
  St. Augustine Seminary
  St. Paul University

Queen's University
  Queen's Theological College

University of Toronto
  St. Michael's College
  Trinity College
  Victoria College
  Knox College
  Wycliffe College
  Regis College

Trent University

University of Waterloo
  Renison College
  St. Paul's United College
  The University of St.
    Jerome's College
  Conrad Grebel College

The University of Western
Ontario
  Brescia College
  Huron College
  King's College

Wilfrid Laurier University
  Waterloo Lutheran Seminary

University of Windsor

York University

Ontario Institute for Studies
in Education

Ryerson Polytechnical
Institute

Ontario College of Art

Dominican College

11. Foreign Student Formula Fees

11.1 The formula fee with respect to all students, except those listed below, who register for the first time in a program at an institution in the winter term, 1977 and until further notice, will be $750 per term:

(1) A citizen of Canada within the meaning of the Canadian Citizenship Act or a person registered as an Indian within the meaning of the Indian Act;

(2) A permanent resident within the meaning of the Immigration Act, 1976;

(3) A visitor admitted to and remaining in Canada under clause 10(c) of the Immigration Act, 1976 who has entered Canada or is in Canada to carry out his official duties as a diplomatic or consular officer or representative or official properly accredited of a country other than Canada, or of the United Nations or any of its agencies or of any intergovernmental organizations in which Canada participates or as a member of the staff of any such diplomat, consular officer, representative or official;

(4) A dependent of a visitor admitted to and remaining in Canada under clause 10(c) of the Immigration Act, 1976 for the purpose of engaging in employment;

(5) A person admitted to and remaining in Canada who is officially recognized by the Employment and Immigration Commission of Canada as a Convention refugee within the meaning of the Immigration Act, 1976;

(6) A person admitted to and remaining in Canada under clauses 10(a) or 10(b) of the Immigration Act, 1976 who is sponsored and financially assisted by the Canadian International Development Agency (including the Commonwealth Scholarships and Fellowships), or by the International Development Research Centre, or by any program of financial assistance to students under an aid program of the United Nations or its agencies provided such a program is recognized and directly or indirectly assisted by the Government of Canada;

(7) A person admitted to and remaining in Canada under clause 10(a) or 10(b) of the Immigration Act, 1976 provided he or she is studying in Canada under a cultural exchange agreement between the Government of Canada and the government of another country or a formal agreement between a provincially-assisted institution in Ontario and a post-secondary institution in another country, provided that under such an agreement, the number of places made available in Ontario universities, Ryerson or the Ontario College of Art normally equals the number of places made available to Ontario residents in the other country or institution as the case may be.

(8) A person admitted to and remaining in Canada under clause 10(a) or 10(b) of the Immigration Act, 1976 who is the holder of an Ontario Graduate Scholarship.

In clause 1(4), "dependent" means a person whose parent or guardian was admitted to and remains in Canada under clause 10(c) of the Immigration Act, 1976, who is wholly

dependent upon such a parent or guardian for support and who is –

    (a)   under 18 years of age, or

    (b)   18 years of age or over and in full-time attendance at an eligible post-secondary institution.

"Guardian" means a person who has been appointed by order of a court as the legal guardian of a child in place of a parent.

11.2   If by January 1, 1977 a person has successfully completed one or more terms of a program at an Ontario institution, and is eligible to continue but does not qualify for exemption under 11.1 above, the formula fee for that person shall be the same as for those who qualify for the exemption until such a student completes his/her current program, or May 1, 1980, whichever occurs earlier.

11.3   For purposes of this regulation, a program is defined as a sequence of courses or other units of study prescribed by an institution for the fulfillment of the requirements of a particular degree, diploma or certificate.

11.4   Notwithstanding 11.2 above, in determining whether a student has registered for the first time in a program, the following sections apply:

    (1)   a person who has successfully completed one or more terms of a program at a level (defined as preliminary year, diploma, undergraduate baccalaureate, professional, master's, doctoral, special/unclassified) but not all the required terms of that program by January 1, 1977 will be considered to be a student registering for the first time in a program if and when he/she transfers more than once to another program at the same level.

    (2)   Except as provided for in section (3) below, a

person who has by January 1, 1977 successfully completed a term of a program will be considered to be registering for the first time in a program if he or she registers in a program at a different level or transfers more than once within the same level.

(3) The following transfers by persons who have successfully completed a term by January 1, 1977 are not regarded as new registrations:

(a) One transfer within a level;

(b) One transfer to another Ontario University, Ryerson, or O.C.A. Persons carry status upon these regulations to new institutions;

(c) One transfer from a program at "undergraduate baccalaureate level" to the "professional level" or vice versa provided that the "professional level" program starts at the post grade 13 level (e.g. engineering, pharmacy, but not law or medicine);

(d) Transfers from any level to special/ unclassified level if the purpose for such a transfer is for the purpose of earning credits toward a degree, or a diploma at another Ontario institution on a letter of permission, or such a transfer is to earn credits to make up failed or otherwise deficient courses in an incomplete regular degree program at the same level as this same institution.

(e) One transfer from a one-year make-up program leading to a one-year master's program if a term of the make-up program had been completed by January 1, 1977.

(4) For purposes of the term "professional level"
     program, programs leading to degrees or
     diplomas in the following disciplines are
     regarded as "professional level" programs:

          Agriculture; Architecture; Business;
          Commerce; Administration; Dentistry;
          Divinity or Theology; Education;
          Engineering; Forestry; Home Economics;
          Food Sciences; Hygiene; Journalism;
          Law; Library Sciences; Medicine; Music;
          Nursing; Optometry; Pharmacy; Physical
          and Health Education and Recreation;
          Rehabilitation Medicine; Secretarial
          Services; Social Work; Veterinary
          Medicine and Animal Sciences.

(5) The formula fee of $750 will automatically apply
     to all students not exempt under Section 11.1
     above on May 1, 1980.

     Although Universities do not have to charge the
     fee due to their fee autonomy, it will be
     deducted as a formula fee, and hence new foreign
     students must be correctly reported and this
     fee assessed.

     The foreign fee supplement will be deducted on
     a current year basis. The formula grant will
     be calculated in the normal manner and then the
     excess of the foreign fee over the normal program
     formula fee, based on current year enrolment,
     will be deducted.

II   OPERATION OF THE FORMULA

    1. Calculation

        The following describes the operation of the formula
        for 1979-80.

        1.1   Total eligible enrolment of each institution
            (including full-time equivalents of part-time
            enrolment) is converted into weighted units
            by applying a scheme of weights intended roughly
            to reflect the relative costs of the various
            types of instruction offered. (It is felt that
            no exact relationship is possible or necessary).
            This is done for enrolments of each of the last
            five years using the weights, conversion factors
            etc. applicable in the year of original reporting.

        1.2   For 1979-80 eligible basic income units, both under-
            graduate and graduate (including minima/maxima
            claims in all years) will be the sum of:
                (i) Undergraduate Funding Base[1]
                        plus or minus
                one half the difference between the
                number of BIU's in the moving average
                (average of 1978-79, 1977-78 and 1976-77)
                and the Undergraduate Funding Base.
              (ii) Graduate Funding Base[2]
                        plus or minus
                one half for Graduate Diploma and Masters
                and one third for Doctorals of:
                   the difference between the number of
                   BIUs in the moving average (average
                   of 1978-79, 1977-78 and 1976-77) and
                   the Graduate Funding Base.
            (1) The Undergraduate Funding Base equals the sum of:
                (i) 1/3 of 1974-75 undergraduate BIU's
              (ii) 1/3 of 1975-76 undergraduate BIU's
            (iii) 1/3 of 1976-77 undergraduate BIU's
            (2) The Graduate Funding Base equals the sum of:
                (i) 1/3 of 1974-75 Graduate BIUs
              (ii) 1/3 of 1975-76 Graduate BIUs
            (iii) 1/3 of 1976-77 Graduate BIUs
              including minima/maxima claims and any
              indicated adjustments pertaining to new
              program approvals.

1.3 Weighted enrolment is multiplied by either the
    BIU value for eligible undergraduate units or
    by the GFU value for Graduate BIUs. These two
    unit values are set annually by the Government
    after receipt of the recommendation of the
    Ontario Council on University Affairs.

1.4 To arrive at the formula operating grant for
    each institution, the formula fees as calculated
    in 1.5 below are deducted from the amount deter-
    mined in 1.3 above.

1.5 Formula fees, which are deducted in arriving at
    the formula grant for 1979-80, are calculated
    as follows:
    For 1979-80 the sum of:
       (i) formula fees relating to the undergraduate
           funding base and graduate funding base
                        plus or minus
      (ii) one half the difference between the fees in
           the moving average for undergraduates,
           Graduate Diploma and Masters and one third
           for Doctorals (average for 1978-79, 1977-
           78 and 1976-77) and the undergraduate
           funding base and the graduate funding base
           respectively, all excluding foreign fees
                        plus
     (iii) the difference between $750 per term and the
           regular formula fee based on current year
           enrolment applicable to non-exempt eligible
           foreign students actually enrolled during
           1979-80.

    Note: Formula fees are derived by applying the
          current formula fee rates to the enrolment
          in each of the years used in the calculation.

2. Church-Related Universities and Colleges

At the end of the 1966-67 fiscal year the Federal Government ceased directly supporting institutions of higher learning and implemented, in its place, a program of fiscal transfer with each province. Since 1967-68, when non-denominational universities came to be financed through the formula, the following arrangements have applied for the church-related colleges and universities.

Grants to denominational colleges were paid only for those institutions and programs which were in existence during the 1966-67 academic year and for which federal grants were paid. The only exception is Dominican College which became eligible for provincial support commencing in the 1973-74 fiscal year.

Each church-related institution, including theological colleges, which had received federal assistance, was provided with an annual provincial grant equivalent to 50% of the amount that would be derived from the application of the operating grants formula.

On September 1, 1974 a new policy was introduced to provide 100% support for students enrolled at the "church-related institutions" with the exception of those enrolled in theology. The conditions of eligibility for full support were:

2.1 that all students for which operating grants are claimed be registered at the constituent university and that the degrees awarded be those of the provincially assisted university;

2.2 that the standards of admission, curriculum, graduation, etc. be established and regulated by the appropriate academic bodies of the parent provincially assisted university;

2.3 that full operating support be limited to those provincially assisted universities currently qualifying for government support.

All church-related institutions and their parent
institutions met the criteria and were provided with
full support, except Regis and Dominicain Colleges.

3. Programs in Theology
   Beginning April 1, 1976 programs in theology are
   eligible for 100% support if the following criteria
   are met:
   3.1 students must be registered at the parent
       provincially assisted university;

   3.2 the degrees awarded must be those of the
       parent university;

   3.3 the standards of admission, curriculum and
       graduation must be established by the
       provincially-assisted university;

   3.4 institutions not presently affiliated with
       a provincially assisted university must
       negotiate an affiliation.

   Those institutions which do not wish to affiliate
   or suspend degree granting powers will continue
   to be eligible for support at the 50% level.
   As of April 1, 1979 only Dominicain College
   had not met the criteria:
   Evidence of eligibility for 100% support is
   given in writing by the Ministry to the parent
   institution. Without such approval only the
   previous 50% level may be claimed.

4. Programs in Education

Some recommendations contained in the report
entitled Financing University Programs in Education
were accepted and implemented by the Government
in 1972. Basically, the weight of 2.0 for all FTE
students in undergraduate programs, with the
phasing-in provisions for transferred programs;
the weight of 3 for Master's level and 6 for
Doctoral level were accepted. The recommendations
pertaining to the treatment of part-time students
were modified due to the substantial cost
involved. Details on the counting and reporting
of these students may be found in the Annual
Essential Notes and Instructions.

Each university undergraduate teacher education
program operates under an agreement with the Minister
of Education under the authority of the
Education Act. Responsibility for certification and
related matters rests with the Minister of Education
while all other responsibility rests with the
Ministry of Colleges and Universities.

Only credit programs in education which have the approval
of the Minister of Education for certification purposes,
where appropriate, are eligible for support.

The minima and maxima provisions for graduate enrolment
counting in programs in education apply only for
students first registering after June 30, 1971.

The former policy on summer courses has now been
amended. Only those summer courses which lead to
university credit are now eligible to be claimed
for support. Certain non-credit specialist courses
may receive support from the Ministry of Education.

5. Minima/Maxima Provisions - Graduate Students

The purpose of the minima/maxima provisions is to
ensure funding within a defined range independent
of the actual number of years required by the
individual student to complete his or her program
of study, which may vary widely. These ranges are
as follows:

Formula Category	Minima	Maxima
Category 6 (weight 3.0)	3 BIUs	6 BIUs
Category 7 (weight 4.0)	4 BIUs	8 BIUs
Category 8 (weight 6.0)	21 BIUs	27 BIUs

Note to Category 8:
Calculation of claims under these provisions
must take into account all units claimed for
the student while in Category 6 or 7.

5.1 The limits shown above came into effect commencing
with the 1968-69 academic session, which was the
first year for accumulating units to be counted
against individual students (1971-72 for Education
students). The minima entitlement provisions
apply only to students whose graduate studies
began in 1968-69 or later (1971-72 in the case
of Education students).

5.2 If, upon graduation, the total units claimed for
a student fall short of his or her minimum, the
shortfall may then be claimed as a minimum
adjustment.

5.3 Since it is not possible to predict on given
reporting dates whether particular students will
in fact be graduating at the conclusion of the
semester being reported upon, claims for
students under the minimum provision should
be made after they graduate.

5.4 Students transferring into the Ontario system with
advanced graduate standing shall have the number of
BIUs ordinarily associated with the obtaining of
such standing attributed to them.

5.5 A graduate student transferring from one university to another within the Ontario system shall transfer only the remainder of his or her maximum total units.

5.6 Students who are still in attendance and who have reached their maximum limit should be reported as ineligible under the formula and no further BIUs may be claimed on their behalf.

5.7 Graduate students who transfer to graduate programs other than those originally embarked upon, and on which units were earned will be dealt with as follows:

   (a) Where advanced standing was granted the units ordinarily associated with the obtaining of such standing should be attributed to the student.

   (b) Where no advanced standing was granted no units previously claimed for the students need be carried forward.

5.8 Graduate Diploma Courses

The minima/maxima provisions were intended to apply only to programs involving a dissertation and ordinarily extending beyond a single academic session. It was for this reason that enrolments in Category 5 programs and in graduate diploma courses were excluded for the minima/maxima provisions.

5.9 Claiming (or Deducting) of BIUs under Minima/Maxima Provisions:

The report of BIUs claimed or deducted under these provisions should be submitted on the prescribed form provided with the enrolment reports. Claims under the minima provisions should be made in the report immediately following the student's graduation for for whom entitlement is being claimed. Students partially exceeding their maximum in the term being reported should be shown on the enrolment pages as generating the full BIU count in that term and the appropriate reduction to attain the maximum should

be shown on the minima/maxima page. Formula fees
are to be deducted for all students claimed under
maxima provisions. Students who are still in
attendance and who have entirely exceeded their
maximum limit and for whom no units are claimed will
not have formula fees charged against them. Any
student in these circumstances will be reported as
ineligible for grant purposes.

6. Fees and Bursaries - Graduate Students
   (1) The tuition fee exemption allowed to full-time students
   under the regulation in respect of the third of three
   terms consecutively attended was discontinued effective
   September 1, 1972.

   (2) Further, permission to use government grants and fees
   to offset the third term fee was discontinued effective
   September 1, 1975. For all graduate students exempt
   from the foreign student fee, including full-time
   equivalents of part-time students, a formula fee of
   $360.00 per term for 1979-80 will be deducted.

7. Study Abroad Programs
   Students enrolled at Ontario universities but actually
   studying abroad are not normally eligible for formula
   support.
   However, upon application from a university, consideration
   may be given to regard as eligible for support, a regis-
   tered student studying abroad, for whom the costs for the
   Ontario institution are similar to those that would be
   incurred were the student physically present at the institu-
   tion. Offshore programs for foreign nationals will not
   be recognized.

8. Students Enrolled at Unrelated Institutions
   (a) Cooperative Programs
   Wherever a student registered in a program at one
   institution receives some instruction in that program
   from another unrelated institution the following rules
   apply:
   a.1 No matter where the student is taught, BIUs may
       be only claimed by the student's home university,
       (i.e. the university where the student is registered).

8. a.2 No matter where the student is taught, formula fees
   are to be shown only by the home university.

   a.3 The arrangement made for payment between the home
   and host universities should <u>not</u> be reflected in
   the enrolment reports. Such matters are internal
   to the institutions involved.

   (b) <u>Letter of Permission</u>
   When a student receives a formal letter of
   permission to register in a course(s) at another
   unrelated institution, each institution may only
   claim BIU's for those courses for which the student
   is actually registered at that institution.

   (c) <u>Visiting Graduate Students</u>
   When a graduate student is registered in a program
   at one institution and receives some instruction in
   that program at another unrelated institution,
   BIU's may be claimed only by the student's home
   university, i.e., the university where the student
   is actually registered. The arrangement made for
   payment between the home and host universities should
   <u>not</u> be reflected in the enrolment reports, as it is
   a matter internal to the institutions involved.

9. <u>Arts and Science Programs not Differentiated between
   General and Honours</u>

   All students in undifferentiated programs in Arts and
   Science not assigned a special weight should be treated
   as if they were in the general course, except in the
   case of fourth year students, who are readily acknow-
   ledged as being in the Honours category, and except for
   students in lower years who by virtue of academic
   standing, or other appropriate criteria embodied in
   university regulations, may reasonably be categorized
   as Honours students. <u>Criteria for such differentiation,
   insofar as they affect the calculation of formula claim,
   are subject to approval by MCU.</u>

10. Imputing Procedure for use by Universities

Where a university employs an undifferentiated program, it is usually impossible to determine first-year enrolments in programs which carry a weight in excess of 1.0 for first year, as first-year students are not differentiated until they pass into their second year. In these circumstances, for purposes of applying the formula categorization, enrolments in such programs shall be imputed as follows:

For each program carrying a weight in excess of 1.0 for first year:

10.1 Determine for year A, the ratio of second-year enrolment in that program to total second-year enrolment.

10.2 Calculate provisional first-year enrolment in that program by applying this ratio to total first-year enrolment. Year A's operating grant will be paid on this basis.

10.3 A year later, on the basis of programs actually taken by the former first-year students now in second year, redetermine the ratio.

10.4 Apply the amended ratio to Year A's total first-year enrolment. The result - for formula purposes - will be the final first-year enrolment in that program for Year A.

10.5 Year B's operating grant will be adjusted for the difference between provisional and final first-year enrolment in that program in Year A.

The above procedure can be extended to the second year of programs whose students are not identifiable as being enrolled in them until the third year. Ministry approval is required to claim imputed BIUs for funding. Such BIUs will be treated as normal BIUs for the purpose of financing.

11. The Audit of Enrolment

The formula is the principal method of distributing operating
grants to the provincially assisted universities of Ontario.
To ensure that the available funds are distributed on an
equitable basis, the universities, the Ministry of Colleges
and Universities, and the general public, must be satisfied
that the enrolment data reflects an accurate count of
students enrolled and that enrolment figures have been
properly classified for purposes of the formula. To provide
this assurance, an audit procedure was proposed.

The Committee of Presidents of Universities of Ontario
have agreed with the proposal and suggested that an indepen-
dent auditor, guided by the instructions available to the
universities for making enrolment returns, be engaged by
the university itself to conduct the audit.

At the conclusion of the audit, the auditor makes his
report to the Deputy Minister of the Ministry of Colleges
and Universities. A full description of the audit of
enrolment will be found in section IV p. 46.

12. Formula Interpretations

Under no circumstances should a university make
decisions unilaterally on matters requiring an
interpretation of the formula. Whether the problem
is one of definition or one of programs not
specifically identified in the formula categorization
scheme, the matter should be formally raised prior to
completion and submission of enrolment reports by
writing to the Assistant Deputy Minister, University
Affairs Division of the Ministry of Colleges and
Universities.

FISCAL YEAR	BIU VALUE	FORMULA WEIGHTS	COUNTING OF STUDENTS
1967-68	$1,320		
1968-69	$1,450 + $24 computer grant		
1969-70	$1,530 + $26 computer grant	(i) undergraduate medicine 3.0 to 5.0 (ii) " dentistry 3.0 to 5.0 (iii) " veterinary med. 3.0 to 5.0 (iv) interns and residents 1.5 to 2.5 (v) thesis only category (wt 1.0)discontinued students to be claimed either as full or part-time.	(i) definition of graduate students for category 5 requires only general not honours degree plus other new conditions. (ii) FTE part-time graduates includi graduate summer school changed from a division of course regis trations by 5 to a multiplicati of part-time numbers by .30 reported and weighted on a tri- mester basis.
1970-71	$1,650 computer grant incorporated in BIU value	(i) Optometry from 2.0 to 3.0	(i) Graduate summer school conversi factor changed from .30 to .50
1971-72	$1,730		(i) 10 month fiscal year. (ii) Graduate formula fee increased from $133 per term to $242.50 per term, free third term introduced
1972-73	$1,765		(i) conversion factor for part-time undergraduates changed from course registrations divided 6.0 to division by 5.5 for institutions with integrated ful and part-time programs. (ii) $100 increase in formula fee for two terms (iii) free third term ended; graduate bursary introduced
1973-74	$1,825		(i) slip year introduced (ii) part-time undergraduate conver- sion factor to 5.0
1974-75	$1,955	(i) Upper years undergraduate social work from 1.0 to 1.5 (ii) Masters social work 3.0 to 4.0 (iii) Forestry technology 1.0 to 1.2 (iv) Engineering technology 1.0 to 1.2	
1975-76	$2,111	(i) Ryerson Weight established at 1.30	(i) graduate bursary terminated
1976-77	$2,212 undergraduate $2,255 graduate	(i) Ontario College of Art weight established at 1.30	(i) Undergraduate enrolment based on 1/3 1974-75 and 2/3 1975-76; graduate based on 1975-76 actual with 3 year freeze. (ii) foreign student fee of $750 per term based on current enrolment. (iii) fractional unit counting introduced. (iv) three term undergraduate reporting.
1977-78	$2,342 undergraduate $2,478 graduate		(i) Undergraduate enrolment based on 1/3 1974-5, 1/3 1975-6 and 1/3 1976-77. (ii) $100 increase in formula fee for two terms except for foreign students.
1978-79	$2,578 undergraduate $2,811 graduate		(i) Undergraduate count based on Und graduate Funding Base + 1/2 (GFB - Moving Average)
1979-80	2,805 undergraduate 2,734 graduate		(i) Graduate Funding base (average of 1974-75, 1975-76 and 1976- 77) + for Masters 1/2 GFB - moving average + for (ii) Doctoral 1/3 GFB - mov. avg. (iii) Formula fee increased by 5% overall.

III   COUNTING OF STUDENTS

1.   The Counting of Undergraduate Students
     Previously, full-time equivalent enrolment for
     part-time undergraduate students (except
     education) was calculated by multiplying the
     number of full-course registrations by a part-
     time conversion factor. This factor was 1/6
     until 1971-72; changed to 1.5.5 for 1972-73
     and 1/5 for 1973-74, 1974-75 and 1975-76.

     Since 1976-77, the new conversion factor to be
     used for both full and part-time students varies
     with the program and may also vary with the
     registration level, although the same conversion
     factor will be applied to full and part-time
     students in the same program at the same level.
     For each undergraduate student in a degree or
     diploma program, the fiscal full-time equivalent
     enrolment for a term is calculated by dividing
     his or her units of study for that term by the normal
     full-time study load for the academic year.
     The fiscal full-time equivalent enrolment for
     the fiscal year is the sum of fiscal full-time
     equivalents for each term within that fiscal
     year. All enrolment reporting will be done on a
     term basis.

   1.1 Definitions
        For the purposes of calculating and reporting
        fiscal FTEs for undergraduate students -

        "Term"   A period of studies (including
                        examinations) at a university
                        of about 15-17 weeks in length;
                        or one half an academic year; or
                        a semester; or the equivalent as
                        determined by a university. The
                        terms are deemed to be: spring
                        term (May-August); fall term

(September-December); winter
term (January-April).

"Academic
Year"   A period of studies (including
           examinations) normally comprising
           the months of September to
           April/May inclusive or the
           equivalent.

"Full-time
Study"   A program of studies which
           enables qualified persons whose
           principal activity is study at
           a university, to qualify for that
           university's degree or diploma
           in a specified normal number of
           academic years or terms, assuming
           for purposes of definition, no
           more than one attempt at any part
           of those studies.

"Unit of
Study"   A course, credit, credit hour or
           other unit of measurement
           established by a university to
           represent one part of the total
           requirements for completion of a
           degree or diploma program.

"Registration
Level"   The ordinal number of years, terms,
           semesters, etc. employed by a
           university to indicate the standing
           of a student in the various
           stages or levels of a program (e.g.
           first year student, second year
           student, first semester student,
           etc.).

"Normal Full-
Time Study
Load"   The "Normal Full-Time Study
               Load of an Academic Year" in a
               program leading to a degree or
               diploma is the number of units of
               study in that academic year needed
               to enable a student to complete
               successfully the program in the
               normal number of academic years of
               full-time study specified for that
               program.

"Fiscal Full-
Time Equiva-
lent"   An FFTE is represented by a
               student whose study load in the
               fiscal year is equal to the normal
               full-time study load for his or her
               program and level of registration
               in the academic year.

1.2 Application of Definitions
     (1) The great variety of programs leading
          to degrees and diplomas means that each
          institution interprets and applies
          these definitions to the calculation of
          FFTEs in a manner that is on the one
          hand congruent with the nature of the
          program itself; but on the other hand,
          in keeping with the intent of these
          definitions. Some examples are provided
          as guidelines:

(a) Some programs measure progress toward the degree or diploma and express requirements for completing the program in exact numbers of units of study. For such programs, the "normal full-time study load" for an academic year is the total number of units of study required to complete the program, divided by the number of academic years of full-time study specified for that program. The FFTEs for a term are calculated by dividing the number of units of study registered by students in the program on the term count date, by the "normal full-time study load" for the academic year.

(b) Some programs measure student progress toward the degree or diploma in "blocks" of study usually of an academic year in duration. All work prescribed is compulsory, and promotion is from one "registration level" to the next rather than by discrete units of study. There is no part-time study, and students are not permitted to complete the degree or diploma requirements in less than the specified number of academic years or terms of full-time study. The only instance where a study overload is taken is for repeating failed work. In this case, the "normal full-time study load" is the total work of the academic year. The FFTEs for the term are equal to half the number of students registered in the program on the count date of the term.

(c) Some programs, particularly some honour and professional programs, prescribe variable "normal full-time study loads" reflecting the fact that within the same program, there may be differences in the work expected of individual students for the same degree or diploma. This arises because of differences in enrichment or emphasis. For such programs the "normal full-time study load" is any amount of work within the range prescribed. For students whose study loads are outside the range, the "normal full-time study load" would be the mid-point of the range, unless the institution identifies a point more representative of the loads of students engaged in full-time study in that program. The FFTEs for a term would be equal to half the number of students within the range of the "normal full-time study load" and, for students whose study loads are outside the range, the FFTEs would be determined by the sum of the study loads taken by such students in the term, divided by the normal full-time study load for the academic year. The total FFTEs for the term is the sum of the two situations above.

(d) In the case of students not registered in programs leading to degrees or diplomas but enrolled in units of study which are normally credited toward degrees or diplomas, the "normal full-time study load" and the method of calculating the FFTEs is governed by the program to which the units of study are usually credited.

(2) For a course or other unit of study to be eligible to be included in the calculation of eligible FFTEs

    (i) it must be taken for credit;

    (ii) it must normally be acceptable for credit as fulfilling in part the requirements for a degree or diploma of that institution;

    (iii) the student must be held academically responsible for his or her achievement in it (i.e. success, failure, etc. must be noted on the student's permanent record) in a way consistent with treatment of all courses or other units of study in that program.

A course or other unit of study normally credited toward a diploma may not be regarded as eligible to be included in the calculation of eligible FFTEs in a degree program unless it is normally accepted by the institution as fulfilling in part the requirements for a degree.

(3) The FFTEs for students registered on the applicable count dates in the summer sessions or intersessions are calculated by adjusting, if necessary, the units of study to make them equal in credit value to units of study of an academic year in length and dividing these (adjusted) units of study by the "normal full-time study load" of the program for the academic year.

1.3 Part-Time Studies
Any university claiming support for students
not engaged in studies on a full-time basis, will
be expected to meet the following criteria:

(1) Faculty and Teaching Staff
Instructors of part-time students are
full members of the appropriate department
and faculty with the full privileges
and responsibilities of any regular or part-
time faculty member. Appointments to the
faculty, terms and conditions of work,
including remuneration, should be
consistent within the institution
irrespective of whether a faculty member is
teaching full-time or part-time students.
Payment for services rendered should be
based upon a regular teaching load, without
regard to the time of day at which courses
are taught.

(2) Academic Structure
The development of courses of study for part-time
students should be handled within the normal
university structure under the direction of the
Senate or appropriate academic governing body. In
universities where a college system is operative,
it may be deemed appropriate to establish or maintain
a special college having specific responsibility for
part-time students. In such cases the college
itself, as well as the members of the teaching
faculty and students, should have the same relation-
ship to the university, including participation in
the governing structure, as would prevail with any
other college.

(3) Admissions, Examinations and Academic Regulations

Regulations for part-time students should be built
into the overall academic structure in such a way
that requirements for admission, promotion, degrees,
etc., are identical insofar as part-time and full-time
students are concerned. Special regulations, for
example, for mature students, should be university-wide
or faculty-wide, without respect to whether a student
is proceeding towards a degree on a part-time or
full-time basis. While it is recognized that some
special academic regulations may be required
particularly to accommodate part-time students, these
should be developed and administered by the same bodies
and in the same manner as those responsible for all
academic regulations of a similar nature.

(4) Scheduling
The university should schedule its classes on an
integrated, extended day program which allows part-time
students to enrol in classes offered either during
day or evening hours and which allow full-time students
to attend classes specifically scheduled for part-time
students when practical.

The foregoing does not apply to work done through
correspondence courses.

(5) Overload teaching is not precluded in special
circumstances.

(6) Any questions of interpretation with respect to the
eligibility of part-time students at university will
be referred to the University Affairs Division of
the Ministry of Colleges and Universities.

(7) The organization of part-time programs at Atkinson
College (York University) is regarded as generally
reflecting the intention of this statement and
therefore qualifies Atkinson students for grants.

2.   Graduate Student Status

   2.1 (a) A student must:

       (1) be engaged in studies requiring an honours undergraduate degree or its equivalent as a pre-requisite for admission (except for students enrolled in Category 5 graduate programs where the honours degree admission requirement does not apply). Students holding an undergraduate general degree or its equivalent and enrolled in programs listed under Categories 6, 7 and 8 should be identified as "qualifying year" or "make-up" students and reported as undergraduates.

       (2) be making substantial demands upon the resources of the university at where registered.

       (3) not be enrolled in a baccalaureate program in any of the following professional fields: social work, library science, law, medicine, teacher education (even if such a student possesses an honour under-graduate degree, he or she is not considered to be a graduate student).

       (4) not be ineligible for any of the reasons outlined in the section headed "ineligible students" (section 3 p.43).

   2.1 (b) Full-time graduate students must

       (1) be pursuing his or her studies as a full-time occupation;

       (2) identify himself or herself as a full-time graduate student;

       (3) be designated by the university as a full-time graduate student;

(4) be geographically available and visit the campus regularly. Without forfeiting full-time status, a graduate student, while still under supervision, may be absent from the university (e.g. visiting libraries, doing field work, attending a graduate course at another institution, etc.) provided that, if any such period of absence exceeds four weeks in any one term, written evidence shall be available in the Graduate Studies Office to the effect that the absence has the approval of the Chairman of the Department and the Dean of Graduate Studies;

(5) not be employed outside the university except by permission of his or her supervisor;

(6) not be regularly employed, save in most exceptional circumstances, on other work or by the university for more than an average of ten hours per week for any term during which he or she is registered as a full-time graduate student. If the student is employed as a teaching fellow or demonstrator, the ten hours per week should represent the total time spent by the student in connection with the appointment - including preparation, marking examinations etc.

(7) As well as meeting the requirements for full-time status listed above, a student reported as belonging to the special category known as "summer school graduate students", must have been enrolled in a graduate full-time summer program of not less than six weeks' duration. The full-time equivalents of summer school graduate students are arrived at by multiplying student numbers by a conversion factor of .50. If reported as a full-time summer school graduate in the enrolment for a term report, a student could not also, for that term be reported as a part-time student. The general rule, is that no student can be counted in more than one basic category (full-time, part-time or summer school) in any one term.

2.1 (c) Part-time Graduate Students

All active graduate students other than full-time
graduate students as defined above are part-time
graduate students.

The Counting of Graduate Students

2.2 During the period of the graduate freeze announced by the
Minister in his letter of December 12, 1975 and subsequent
extension through 1978-79, the use of actual numbers of
graduate students to calculate the graduate operating
grants was suspended. Beginning in 1979-80, formula
grants are to be distributed to each institution in
relation to a graduate funding base and moving average
as explained on page 19 under "Operation of the Formula."
Thus eligible graduate enrolments reported for all years
1974-75 through to 1978-79, including enrolment in
graduate programs approved since the announcement of
the graduate freeze, are to be counted. This reporting
should include minima/maxima graduate BIUs.

2.3 Graduate enrolment is counted on a trimester basis as
for undergraduates. Enrolment for two semesters is
required for the completion of a "year" for students
in Category 5 (weight 2), while three semesters would
be required for each full "year" in Categories 6
(weight 3), 7 (weight 4) and 8 (weight 6). Accordingly,
students in Category 5 and Category 6 will earn a
weight of one for each semester of attendance, while
Category 7 and 8 students will earn, per semester,
weights of 1 1/3 and 2.0 respectively. The require-
ments for graduate student status are described in
section III (2), page 39 of this manual

2.4 In 1970-71, mimimum and maximum limits were set to the
number of BIUs which a graduate student could generate
for a university. These limits apply to students
commencing graduate work in 1968-69 or later (1971-72
in the case of Education students).

For Master's candidates in the sciences (i.e. formula
Category 7) the maximum is eight units; for those in
the social sciences and humanities (Category 6) the

limit is six units (equivalent in each case to six trimesters or two years of full-time attendance after an honours undergraduate degree). Doctoral candidates (Catetory 8) are limited to a maximum of 27 units including units earned at the Master's level.

For students who graduate having earned fewer than the minimum units allowed (3, 4 and 21 for Categories 6, 7, and 8 respectively), the university can claim the difference between earned units and the minimum.

2.5 Part-time graudate students should be reported on a trimester basis, calculating the number of term FTE students by multiplying actual students enrolled by 0.30 (three-tenths).

2.6 The conversion factor for Graduate Summer School students, who are considered as being full-time for one-half a semester (six to eight weeks), is .50.

3. Ineligible Students

3.1 Those enrolled in graduate programs introduced after spring 1971 which have not received approval in writing from the Ministry of Colleges and Universities.

It should not be assumed, in the absence of an immediate response from the Ministry to specific matters raised by a university, that financial approval has been granted automatically. Accordingly, enrolment data submitted by a university as official eligible enrolment projections should exclude any programs not approved in writing at the time of submission unless specific authorization has been given to do so. Provision is made for the reporting of such enrolment in unapproved programs as ineligible, and, should the program be subsequently approved, the appropriate figures will be added by the Ministry to the eligible projection.

3.2 Those enrolled in programs of study for which ordinary formula support has been specifically denied.

3.3 Students "auditing" university credit courses (possibly registered in a course, but not paying the full fees or taking them for credit standing).

To be claimed as eligible, a student must have taken a course for credit standing, mere registration in a course does not mean eligibility for formula support.

3.4 Students registered in First Year of undergraduate degree programs, who on the applicable count date, have not successfully completed the requirements for the Ontario Secondary School Honour Graduation Diploma or the equivalent from other educational jurisdictions except:

    (a) mature students

    (b) *students registered in preliminary years at Carleton, Ottawa and Windsor weighted at 0.7

    (c) *students registered in first year at Brock University who have successfully completed the Ontario Secondary School Graduation Diploma but who have not completed the Ontario Secondary School Honour Graduation Diploma

        (d)   students registered in Music at the University
of Toronto who have completed the requirements
for the Ontario Secondary School Graduation Diploma
who have certain additional qualifications in music

        (e)   students registered in the transitional year
program of the University of Toronto who lack the
ordinary entrance qualifications because of
economic, social, cultural and ethnic factors

        (f)   students registered in first year in a trimester
program in the Winter or Spring Term at the
University of Guelph who leave Ontario Year 5
studies before the end of the normal school year
with the permission of the high school principal.

3.5   Students enrolled in programs in theology at those
institutions which have not met the criteria outlined
by the Minister in his letter of June 26, 1975, and who
are enrolled in programs of study introduced after
September 1, 1967, or, which were ineligible for support
under the former federal scheme of grants for universities
and colleges. (see page 21 for criteria)

3.6   Graduate students in programs of study that have not been
favourably appraised by the Ontario Council on Graduate
Studies (i.e. Ph.D. programs established after January 1,
1969 and Master's programs established after July 1, 1967.)

3.7   Graduate students in new programs subject to the embargo
on new graduate programs (i.e. all programs without
enrolment prior to May 1, 1971, except those designated
by MCU as exempt from the embargo).

3.8   Graduate students for whom the maximum of claimable BIUs
has been claimed prior to the term being reported on.
(Students who will exceed the maximum as a result of the
term being reported on should be claimed as eligible at
the full entitlement and adjustment made by means of the
minima/maxima provisions as explained in Section 5
page 24)

3.9 Graduate students who are registered but inactive.
This would include students working on their thesis
and not making substantial demands on the resources
of the institution.

4. Permissible Changes in Actual and Projected Enrolment Reports

4.1 Report on Actual Enrolment
A University must bear the adverse consequences of its
own errors in enrolment reporting, but will suffer no
loss in respect of enrolment under-reported if the
situation arose because of an oversight on the part
of the Ministry.

In submitting reports of actual enrolment, it is the
responsibility of the universities to see that no
eligible students are unclaimed. Only in the most
exceptional circumstances will upward adjustments be
considered for claims made after the due dates for
enrolment reports.

4.2 Enrolment Projections
Changes made by universities to their projections after
the due dates, should be communicated to the Ministry,
as soon as they are known; they will then be advised
whether or not the changes are to be regarded as
amendments to official university projections. In
general, changes received more than 3 weeks after the
due date will not be accepted.

IV   ENROLMENT AUDIT

The following is a general description of the kind of
enrolment audit required for institutions eligible for
support under the Ontario Formula for Operating Grants
and under the Program of Support for Church-Related
Universities and Colleges.

1.   The objective of the examination shall be to render
an audit certificate in the prescribed form. If the
auditor, based upon the results of the examination, is
unable to complete the prescribed certificate without
qualification(s) then he/she shall report these
findings to the Deputy Minister of Colleges and
Universities explaining fully the circumstances involved,
and will await further direction as to how to proceed
with the examination.

If, on the other hand, the auditor is able to complete
the certificate without qualification (because adequate
assurance has been obtained from the audit work that
the upper limit of errors throughout the enrolment
reports does not exceed the materiality limit), it will
not be necessary to disclose any known or projected
errors to the Ministry; reporting requirements will, in
these circumstances, be fully met by the submission of
a signed certificate in the prescribed form.

It is recognized that during the course of his
examination the auditor may wish to seek clarification
or direction in regard to such matters as ambiguities
arising from applying the categorization scheme.
Clarifications and interpretations of the formula for
operating grants are the responsibility of the Ministry.
If, therefore, the auditor wishes to consult, or to
seek clarification or direction with respect to the
examination, it should be done in writing to the
Assistant Deputy Minister, University Affairs Division
of the Ministry of Colleges and Universities.

Copies of all such exchanges of correspondence will be forwarded by the Ministry to the appropriate officials of the universities concerned.

2. The Ministry of Colleges and Universities will provide the following to the auditor of each institution.

2.1 Copies of the enrolment reports signed by the enrolment reporting officer and president of the institution. These reports will carry an indication of acceptance by the Ministry of Colleges and Universities

On the basis of such acceptance grants will have already been determined and paid (subject only to the audit procedures herein described). The enrolment reports as submitted will have been carefully reviewed and their arithmetical accuracy proven. Changes, if any, to the data submitted will have been noted and agreed to by the reporting institution.

2.2 An updated version of the manual on the operating grants formula and instructions for the completion of the enrolment reports.

3.   The auditor of each reporting institution will provide the Deputy Minister of Colleges and Universities with an enrolment audit report and will provide a copy of all correspondence in this connection to the President (or his equivalent) of the university or college concerned. This report is to be submitted not later than December 31st following the conclusion of the academic year concerned.

4.   Each university or college must formally advise the firm of public accountants retained by it that an audit of enrolment is a condition for payment of enrolment-

related operating grants and that the required examination
for this purpose has been authorized. A copy of this letter
should be forwarded to the Ministry, where it will serve as
authorization for direct communication with the auditors.

5.   Scope of, and Suggested Procedures for, the Audit
of Enrolment

During the course of the examination the Auditor will:

5.1 Carry out a general review of student records
and related procedures to ensure their adequacy for
satisfactory completion of the enrolment reports.

5.2 In consultation with university officials
concerned:

(a) Inquire into, and determine reasons for
changes between enrolment forms as submitted
and as approved by the Ministry of Colleges and
Universities. Note any procedural weaknesses
and ensure the institution has taken appropriate
action to prevent their recurrence.

(b) By direct inquiry, determine any areas of
ambiguity encountered in applying the formula
categorization scheme.   List any enrolment
situations for which the formula categorization scheme
does not provide explicitly, and cite the authority
for the manner in which this matter has been
dealt with by the institution.

At the conclusion of the audit obtain a certificate
(in the prescribed form - see Appendix A page 53) from
the registrar of the institution attesting that
(except as noted) enrolments in all programs of
study offered fall within the formula categories
under which they have been included.

In addition, this certificate will declare that all enrolment reported is eligible for purposes of determining grant assistance except as noted in the certificate.

5.3   Reconciliation to academic fees per audited financial statements.

Obtain and check a schedule which satisfactorily reconciles (to the extent considered necessary) total fees computed, using reported enrolment data and the fee schedule of the institution, to academic fees as reported on the audited financial statements.

5.4   Examination of records and enrolment reports

Determination of appropriate procedures, scope and extent of testing is, of course, acknowledged as a responsibility of the auditor. With respect to the detailed examination of enrolment reports and related student records, two distinct situations should be recognized, however, each calling for a different approach.

Where enrolment summaries of the students in each category total, permit the identification of individual students comprising this total (that is, an adequate audit trail exists) then it is apparent that procedures involving only tracing from the records to the reports, and vice versa, will be adequate.

Under these circumstances, the auditor may wish to make use of either statistical sampling methods or judgemental testing procedures in determining the audit program appropriate in the circumstances.

5.5   Foreign Student Formula Fee

Section 11 pp 14-18 contains a full description of the policy regarding this fee. For audit purposes the following procedures should be implemented by the universities in the administration of this policy.

(i) A certificate signed by each student at time
of registration attesting to his or her
exemption and a note on the certificate
warning of the penalty for false declaration
is required.

(ii) Some steps are to be taken by the university
to verify the accuracy of the above certificates.

To achieve (ii) above, students with a social insurance
number (SIN) beginning with "9" may be a new foreign
student and subject to the fee. Where students have
no SIN, other documentation will be required. Students
with a SIN that does not begin with "9" need not be
checked.

The audit should ensure that the above procedures are
operational and adequate to ensure proper implementation
of the policy.

To provide guidance with respect to statistical sampling
techniques as they might apply to the audit of enrolment,
Appendix B, which consists of extracts from a letter
addressed to Mr. F. J. Kidd and dated October, 1972, from
the Toronto Office of Clarkson, Gordon & Co., Chartered
Accountants, is attached.

For purposes of this scheme for the audit of enrolment,
statistical sampling techniques predicated upon a
materiality limit of 2% (with respect to the 'upper
error limit' of net overstatement), coupled with a 95%
degree of sampling confidence will be acceptable.
That is, the statistical results yielded by a random

sample, must be such as to give the auditor at least
95% confidence that the total BIUs reported on the
year's enrolment reports are not overstated by a net
amount of more than 2%. If such statistical results
are (because of the frequency of errors observed in
the audit work) unobtainable, then an unqualified certif-
icate should not be given (see paragraph 1 of section
IV, p. 46). If, instead, judgemental testing procedures
are employed, the auditor should be satisfied that the
audit tests of BIU records provide adequate evidence
that the upper limit of net overstatement error does
not exceed 2%. In any event a sample containing no
errors should not be less than 150.

To illustrate an appropriate audit examination where
an adequate audit trail exists, the following procedures
might be considered:

> Basis of test: According to the standards of
> confidence and materiality suggested above, and
> checking at least one enrolment category on
> each enrolment sheet:

> From enrolment reports to records and from
> records to enrolment reports -

> Account for all students reported, as at the
reporting date, under the category selected.

- (a) Examine individual student records checking all
details relevant to the categorization and
eligibility of the student.
- (b) Determine that the applicable academic fee has
been assessed to each student.
- (c) List and investigate all apparent discrepancies
under (a) or (b).

6.   Extension to the scope of the audit

After 1968-69, the first year for enrolment audits, the
introduction of new methods and procedures for establishing
formula units of the graduate level (described in Appendix
C) gave rise to the need for some extension to the scope
of, and suggested procedures for, the audit of enrolment.
Appendix C consists of three parts:

6.1   Notes on the counting of graduate students under the Ontario formula for operating grants with letters in the margin which relate graduate student eligibility criteria to suggested audit steps set out in part (ii). These regulations have been amended to reflect changes in graduate eligibility to date.

6.2   Audit Implications - a list of possible audit test procedures for use in connection with the new methods and procedures for establishing formula entitlements at the graduate level.

6.3   Certification of graduate student status and eligibility for formula operating grant support: (this to be used for "verifying" some of the less auditable criteria).

7.   Form of the audit certificate

"We have examined the enrolment reports of (name of institution) for the academic year 19../19.. which have been submitted to us by the Ministry of Colleges and Universities.

Our examination included a general review of the records and procedures by which the above enrolment reports were prepared and such tests of the records of (name of institution) and other supporting evidence as we considered necessary in the circumstances.

In our opinion, these enrolment reports present fairly the weighted enrolment and formula fees of (name of institution) for purposes of determining its Government of Ontario formula operating grants.

_____
                    Auditor

FORM OF CERTIFICATION IN
CONNECTION WITH AUDIT OF
ENROLMENT
                                        Appendix A

<u>UNIVERSITY LETTERHEAD</u>

Certification in Connection with Audit
of Enrolment

To: (Name of auditors)
    (Institutions)   (Session)

Dear Sir:

In connection with your examination of the enrolment
reports for (session) submitted to the Ministry of Colleges
and Universities and the records from which these have
been prepared I hereby certify that to the best of my
knowledge and belief:

1. That all records have been maintained in a manner
consistent with the internal university procedures
established for the compilation of enrolment data and
that the figures shown on the enrolment reports agree with
these records.

2. That there is explicit authority for inclusion of
enrolments in all programs of study offered by the
university within the formula categories under which they
have been reported, except as noted below:

3. That all students ineligible for support under the
provisions of the Ontario Formula for Operating Grants
have been excluded in determining the operating grant
which has been paid.

    The numbers of such students and the programs of
study in which they are enrolled are as noted below.

4.   That all relevant instructions and provisions
applicable to the completion of the enrolment reports
and the determination of the operating grants have been
correctly followed.

                              Yours truly,

                              _____

                              _____
                                        Title
                              To be signed by Registrar (or
                              such other university official
                              as is responsible for comple-
                              tion of MCU Enrolment
                              Reports).

Extracts from a letter dated October 18, 1972 from
Clarkson, Gordon & Co. to Mr. F. J. Kidd, on the subject
of the application of statistical sampling techniques to
enrolment auditing

Background

An auditor does not and cannot "certify to the accuracy"
of figures in a financial statement (or enrolment report)
first because the accounting principles governing its
preparation always require judgement in application and
secondly because it is usually completely impractical for
the auditor to check 100% of the underlying transactions.
Instead, the auditor bases his examination on tests
guided by analyses of the figures, internal reconciliation
of balances, review of internal control, and so on and
then reports, if appropriate, that "in his opinion" the
financial statement (or enrolment report) "presents fairly"
the financial position or other information required (such
as the "weighted enrolment").

The words "in his opinion" imply that the auditor
cannot provide 100% certainty but rather a reasonable
degree of confidence as a result of his audit work. The
words "present fairly" imply that the auditor cannot
report that the financial statement (or enrolment report)
is accurate to the cent but rather that (subject to the
reasonable degree of confidence mentioned above) it is not
mistated by a material amount. Any audit therefore,
implies a choice of confidence level and materiality limit.
Such choices are made implicitly when an auditor employs
judgmental testing procedures (he intuitively decides how
much he must test to be reasonably sure of detecting a
material error if present). When an auditor employs
statistical sampling procedures, however, the choice of
confidence level and materiality limit (which in turn
determine sample size) must be made explicit.

The Ministry has stated that for the purposes of the
enrolment audit the university auditor may employ either
statistical sampling techniques or judgmental testing
procedures. Where the nature of the enrolment records,
however, permits the application of statistical sampling
techniques most university auditors will wish to consider
such application seriously because of the benefits of
greater objectivity to be derived therefrom. The following
material is intended to indicate a method of applying such
techniques.

Prescription of confidence level and materiality limit
The Ministry has prescribed a sampling confidence level of
95% and a materiality limit of 2% (with respect to the
upper limit of net overstatements) where the university
auditor employs statistical sampling procedures in
arriving at an opinion on the reported "weighted enrolment".

There are various different components of a complete
enrolment audit: studying the system of internal control,
reconciling reported academic fees to reported enrolment,
sampling records of 'basic income units' (BIUs to verify
'weighted enrolment' reflected in the year's enrolment
reports, etc. The following material, however, addresses
itself exclusively to the statistical sampling of BIU
records to verify the year's enrolment reports.

Statistical sampling of BIUs
What is required is a statistical sample of BIU records
that will yield 95% sampling confidence that total BIUs
reported on the year's enrolment reports have not been
overstated by more than 2%[1].

Since the objective of the audit test is to assess the
frequency of net overstatements in total reported BIUs,
the direction of the audit test must clearly be from the
reported BIUs back to underlying enrolment records.

The first question is whether the auditor should select
a random sample of students or a random sample of BIUs (in

the former case every student would have an equal chance
of selection while in the latter case every BIU would
have an equal chance of selection). If the former method is
chosen the auditor will be able to arrive at a statistical
conclusion that X% of the student records may contain
BIU overstatements. The auditor will not, however, be able to
convert this conclusion into a rigorous statistical
conclusion with respect to total BIUs themselves.

If the X% of overstated student records were or might
be mostly graduate students, then total BIUs might well be
overstated by far more than X% (since each graduate
student overstatement might be an overstatement of several
BIUs). It is possible that additional judgmental testing
(particularly among graduate records) may still permit the
auditor in such a case to arrive at a reasonable judgmental
conclusion. Nonetheless, it is desirable, where feasible,
to obtain a statistical conclusion directly relating to
reported BIUs and this can be done by drawing a statistical
sample of BIUs.

The first point is, therefore, that it is desirable
for the auditor to draw a random sample of BIUs: that is,
every BIU among the total reported BIUs should have an
equal chance of selection in the audit sample.

Such a procedure will, for example, give somewhat
more chance of selection to graduate students than to
undergraduates but this is appropriate since, in terms
of BIUs, each of the former has a greater potential for
overstatement than each of the latter.   ,

Mechanics of drawing a statistical sample of BIUs:
Pure random sampling involves making a new random draw
on each selection. A far less cumbersome procedure,
however, is to use 'systematic' or 'interval' sampling
whereby the auditor selects every nth BIU throughout the
population. This requires two things:

(1) that the auditor can identify a set of BIU records
(the 'population') that he has added (or will add) and

agreed (or will agree) in total to the total BIUs reported on the year's enrolment reports, and

(2) that he can by some method count through this population of BIUs in order to select every nth one.[2]

For example, if the total population amounts to 4,000 BIUs and the auditor has estimated that he will need a sample of 400 BIUs (sample size determination is discussed below) he would want to select every 10th BIU throughout the entire population. The counting through the population to pick every 10th BIU may be able to be done manually (if the BIU records exist on visible accounting reports) or by computer (if the BIU records exist on computer files).

There is a risk that 'interval sampling' may contain a bias (if there is any periodicity or clustering in the pattern of errors throughout the population). For this reason, it is desirable for the auditor to use either 'randomly varying intervals' (the better method) or 'fixed intervals following several random starts'.

With the preferable method of 'randomly varying intervals' the auditor would use a stream of random intervals (obtained either from random number tables or a computer program) averaging to the desired average interval. For example, in the case above, if the auditor wishes 400 selections out of 4,000 BIUs he needs to select at an average interval of 10, but the specific intervals would vary randomly above and below 10 (e.g. he might count along 7 for the 1st selection point, another 15 for the 2nd, and so on). One method of obtaining varying intervals averaging to 10, for example, is to pick random numbers between 1 and 20 (twice the desired average interval), which, if enough are selected, will be bound to average to close to 10.

If, however, the auditor uses fixed intervals, he should take several random starts. One method (still using the above example) is to pick 3 random starts each between 1 and 30 at the very beginning of the population and then fixed intervals of 30 after each of these starts (producing in total about 400 selections). Another method is to pick a random start between 1 and 10 at the beginning of each third (or smaller division) of the population followed by fixed intervals of 10 thereafter throughout that division of the population. These methods are generally considered acceptable but the method of varying intervals described in the previous paragraph is to be preferred.

Evaluation of a statistical sample of BIUs:
The evaluation of statistical samples will now be discussed and, following that, the planning of required sample size.

Suppose, temporarily, that a university consisted solely of students having 1 BIU each and that the only errors discovered by the auditor were instances where the student should not have been included at all (i.e. each discovered error represented a 1 BIU overstatement).

Statistical attribute sampling tables for 95% confidence (the confidence level prescribed by the Ministry) indicate the following:

For 95% confidence[3]

Number of errors found in sample	'Upper error limit' factor
0	3.00
1	4.75
2	6.30
3	7.76
4	9.16
.	.
.	.
.	.
.	.
.	.
.	.

where:

$$\text{'upper error limit' frequency} = \frac{\text{'upper error limit' factor}}{\text{sample size}}$$

For example,

if 0 errors found in a sample of 100,

$$\text{U.E.L.} = \frac{3.00}{100} = 3.00\%$$

if 1 error found in a sample of 100,

$$\text{U.E.L.} = \frac{4.75}{100} = 4.75\%$$

if 3 errors found in a sample of 400,

$$\text{U.E.L.} = \frac{7.76}{400} = 1.94\%$$

Evaluation for varying error sizes

In practice, of course, a university does not consist solely of students having 1 BIU each but rather some having 1, some 4, some 2.5, etc. Suppose that, in drawing the statistical sample of BIUs, one particular BIU selected happens to fall within a student enrolment record for 4 BIUs. Of course, the auditor cannot verify merely the 1 BIU selected but rather must verify the whole student enrolment record of 4 BIUs. If this whole student record proves to be correct, then obviously the selected BIU therein must be correct too (and accordingly no sample error should be scored for this item). On the other hand if the whole student record proves to be fictitious, then obviously the selected BIU therein is 100% fictitious too (and accordingly a sample error of one 100% fictitious BIU should be scored). If all selected BIUs turned out to be completely right or completely wrong then the table values above could always be used to project the 'upper error limit' of completely fictitious BIUs throughout the population (and this would represent the 'upper error limit' of overstatement in total reported BIUs).

However, in the above example, the auditor may find that the student enrolment record of 4 BIUs should properly have been recorded as 2 BIUs. In this case, the student enrolment record has been overstated by 50% of its reported value. It is logical then to consider each of the 4 reported BIUs (including the one selected BIU therein) as being "tainted" by a 50% overstatement error. In such a case, then, a sample error of one 50% overstated BIU should be scored.

Tainting percentages under 100%:

How is such a 50% overstated BIU discovered as the only error, say, in a sample of 100, to be projected? Referring to the previous table a sample of 100 containing 1 error had a UEL of 4.75%. It follows, in a sample of 100 containing no 100% errors and one 50% error, that 100% errors (0 found in sample) have a UEL of 3.00%, while 100% and 50% errors together (1 found in sample) have a UEL of 4.75%. It can be readily shown that the most

conservative way of combining these two rigorous statistical conclusions is to attribute a 3.00% possible frequency to 100% errors and the remaining 1.75% possible frequency to 50% errors.

The net UEL would therefore be computed as follows:

Errors found	'Tainting %'		UEL incremental factor		Product	Sample size	Net UEL
0	100%	X	3.00	=	3.00		
1st	50%	X	1.75	=	.88		
			4.75				
					3.88	÷ 100	= 3.88%

To permit such computations to be done when several different errors are found, a table of UEL incremental factors is desirable as follows:

for 95% confidence[4]

Errors found in sample, ranked in declining tainting percentage	'Upper error limit' incremental factor
0	3.00
1st	1.75
2nd	1.55
3rd	1.46
4th	1.40
5th	1.36
6th	1.33
7th	1.30
8th	1.29
9th	1.27
10th	1.26
11th	1.24
12th	1.24
13th	1.22
14th	1.22
15th	1.21

Where:

'upper error limit' frequency value = $\dfrac{1}{\text{sample size}}$

$$X \quad \begin{array}{l} 3.00 \text{ X } 100\% \\ +1.75 \text{ X tainting \% for 1st error} \\ +1.55 \text{ X tainting \% for 2nd error} \\ +\text{etc.} \end{array}$$

and where:

tainting % of an error = $\dfrac{\text{amount of error (in BIUs)}}{\text{reported BIUs for that student record}}$ X 100%

For conservatism, it is necessary to rank the errors in order of declining tainting % (as indicated above) since the UEL incremental factors are larger for the early errors. Note that the zero error line is always scored at 3.00 X 100% since, even if no 100% errors are found in the sample, overstatement errors as large as 100% each (though no larger) could exist in the population.

Offsetting overstatements and understatements
The above procedures should be applied solely to errors of overstatement discovered in the audit sample. The logic is that individual errors of understatement cannot possibly aggravate any total overstatement and therefore in projecting individual errors of overstatement it is perfectly safe for the auditor simply to ignore any individual errors of understatement. If the gross UEL of overstatements projected on the foregoing basis amounts to 2% or less then the auditor is in a position to give an unqualified opinion without consideration of the possible offsetting effect of any understatements.

Cases may arise, however, where the gross UEL of overstatements exceeds the 2% limit and yet it is most unlikely that the net overstatement could be this high because of the offsetting effect of understatement errors. It can be shown statistically that it is proper to deduct from the gross UEL of overstatement errors the MLE ('most likely error' rate) of understatement errors.[5]

The 'most likely error' of understatement (to be deducted above) is equal to the sum of the tainting percentages of individual understatement errors discovered in the audit sample divided by the sample size.

Summary of evaluation procedure
The above procedures can be summarized as follows:

1. After the BIU selection points have been identified throughout the population of reported BIUs, verify the student record in which each selected BIU falls.

2. For each selected BIU determine a tainting % as follows:

$$\text{tainting \%} = \frac{\text{amount of error (in BIUs)}}{\text{reported BIUs for that student record}} \times 100\%$$

3. Rank the overstatement errors in order of declining tainting % and compute the gross UEL of overstatements as follows:

gross UEL of overstatements = $\dfrac{1}{\text{sample size}}$

$$
\begin{aligned}
X \quad & 3.00 \times 100\% \\
+ \; & 1.75 \times \text{tainting \% for} \\
& \qquad \text{1st error} \\
+ \; & 1.55 \times \text{tainting \% for} \\
& \qquad \text{2nd error} \\
+ \; & \text{etc.}
\end{aligned}
$$

using the previous table.

4. Compute the most likely error of understatement as follows:

MLE of understatement = $\dfrac{1}{\text{sample size}}$

$$
\begin{aligned}
X \quad & \text{tainting \% for 1st error} \\
+ \; & \text{tainting \% for 2nd error} \\
+ \; & \text{etc.}
\end{aligned}
$$

5. Compute the upper error limit of net overstatement as follows:

      gross UEL of overstatements
-    MLE of understatements
=   net UEL of overstatements

6. Compare the net upper error limit of overstatements to the 2% materiality limit prescribed by the Ministry.

7. If the net UEL of overstatement is 2% or less, the
    auditor is in a position to give an unqualified
    opinion as far as this portion of the audit is
    concerned (although, of course, the results of other
    audit work such as the review of internal control,
    the reconciliation of academic fees, etc. must be
    assessed judgmentally as well).

8. If, on the other hand, the net UEL of overstatement
    exceeds 2% the auditor is not in a position to give an
    unqualified opinion. He should then consider the
    desirability of extending his sample size (this is
    discussed below). If,however, it seems clear that no
    amount of sample extension will lead to an unqualified
    opinion then he must report his findings to the
    Ministry.

Suggested audit working paper
The audit working paper form shown on the following page
can be used to record the statistical evaluation according
to the foregoing procedures and contains an example answer
to illustrate its use.

In the example illustrated, the auditor discovered
four overstatement errors and two understatement errors in
his sample of 300 BIUs. The 'most likely' errors are 0.83%
overstatements and 0.50% understatements, for a net 'most
likely error' of 0.33% overstatements. The university
records are probably overstated by only this small 0.33% rate.
However, they might, subject to 95% confidence, be over-
stated by a net amount of as much as 1.83% (the net UEL
of overstatement). Since this net UEL does not exceed the
prescribed materiality limit of 2%, the auditor (subject
to the completion and assessment of his other audit work:
internal control review, academic fee reconciliation, etc.)
is in a position to give an unqualified opinion. Had the net

WORKING PAPER FORM FOR EVALUATING STATISTICAL SAMPLE OF 'BASIC INCOME UNITS'

A. Identification No. of student records found to contain BIU errors	B. As reported	C. Should be	D. amount understated	E. amount overstated	F. Understatements $\frac{D}{B}$ x 100%	G. Overstatements $\frac{E}{B}$ x 100%	H. Rank of overstatement errpr (in declining tainting %).	I. UEL incremental factor for this rank of error (per below)	J. Tainting % x UEL incremental factor (G x 1)
							0 ------	0	3.00
A 423	4	3		1		25%	4	1.40	.35
F 218	2	3	1		50%				
L 106	1	0		1		100%	1	1.75	1.75
M 247	3	1.5		1.5		50%	3	1.46	.73
R 351	1	2	1		100%				
S 067	4	1		3		75%	2	1.55	1.16
TOTALS					150%	250%			6.99

Table of Factors for 95% Confidence

Errors found in sample, ranked in declining tainting percentage	'upper error limit' incremental factor
0	3.00
1st	1.75
2nd	1.55
3rd	1.46
4th	1.40
5th	1.36
6th	1.33
7th	1.30
8th	1.29
9th	1.27
10th	1.26
11th	1.24
12th	1.24
13th	1.22
14th	1.22
15th	1.21

'Most likely error' MLE

under 150% ÷ 300 = 0.50%

over 250% ÷ 300 = 0.83%

— Sample size 300 —

Net MLE of overstatement: 0.83% − 0.50% = 0.33%

Gross UEL of overstatement: 6.99 ÷ 300 = 2.33%

less MLE of understatement: 0.50%

Net UEL of overstatement: 1.83%

compare to:*

Prescribed materiality limit 2.00%

*If net UEL of overstatement exceeds materiality limit auditor must either
(a) extend sample size and re-evaluate
or (b) report why unqualified opinion is impossible

UEL, on the other hand, exceeded the 2% limit, he would
have had to consider the possibility of sample extension.

Sample extension

Suppose that in the foregoing example the auditor's sample
of 300 had instead contained 3 100% overstatement errors
and no understatement errors. The statistical evaluation in
this case would have worked out to the following:

MLE of overstatement: $\frac{300\%}{300} = 1\%$

UEL of overstatement: $\frac{7.76}{300} = 2.59\%$

Here the situation is that while the overstatement of
reported BIUs is probably only 1% (which would be
acceptable) it might subject to 95% confidence be as high
as 2.59% (which is unacceptable). Based on the audit work
done to date the auditor is not in a position to give an
unqualified opinion. On the other hand, there is a reason-
able indication that the population error is not material
(i.e. not as high as 2%) and that a larger sample size will be
able to prove this. In such a situation the auditor should
extend his sample size by drawing additional items from
the population.

Suppose he draws an additional 300 BIUs and finds a
further 3 100% overstatement errors therein (the same
error frequency as in his initial sample). He now has a
total sample of 600 BIUs containing 6 100% overstatement
errors. It is appropriate to evaluate this expanded sample of
600 in exactly the same way as already described. The
statistical evaluation of the 600 sample would work out to
the following:

MLE of overstatement: $\frac{600\%}{600} = 1\%$

UEL of overstatement: $\frac{11.85}{600} = 1.98\%$

It might be noted that the MLE of 1% has not changed but the UEL has been reduced from 2.59% to 1.98% and is now acceptable (as being less than the prescribed 2% materiality limit). Based on the expanded audit work now completed, the auditor is in a position to give an unqualified opinion (always subject to completion and assessment of other audit work: internal control review, academic fee reconciliation, etc.).

In general, extending the sample size should not be counted on to change the MLE (though in any particular case it may in fact change it either up or down) but it can be counted on to reduce the precision gap between the MLE and the UEL, and thus usually to reduce the UEL. A greater amount of audit work permits a more precise answer and so the precision gap between the MLE and the UEL is narrowed.

The UEL will of course always exceed the MLE (there will always be some precision gap however large the sample size). Therefore, if in the auditor's preliminary sample of 300 he had discovered 7 100% overstatement errors - for a MLE of 2.3% and a UEL of 4.4% - there is no point in the auditor extending the sample size. The MLE projected from any extended sample is likely to remain in the neighbourhood of 2.3% and the UEL will be even higher than this. There is therefore little prospect of bringing the UEL down to 2% and thereby obtaining an acceptable conclusion. Indeed, if the initial work indicates that a material error (over 2%) probably does exist and it is unlikely that extended work will provide 95% confidence that a 2% error does not exist, the auditor should not extend the sample but proceed immediately to report to the Ministry.

Guide as to sample extension

The following table can be used as a guide in deciding to what extent an initial sample should be extended (if any extension is appropriate at all).

For 95% confidence[6]

Sample Size	Number of 100% over-statement errors found in sample (assuming no understatement errors found)	MLE (=sample error rate)	UEL
150	0	0.00%	2%
240	1	.42	2
320	2	.64	2
390	3	.78	2
460	4	.88	2
520	5	.94	2
590	6	1.02	2
660	7	1.06	2
720	8	1.10	2
790	9	1.14	2
850	10	1.18	2

For example, to use the previous example, if the auditor had found a 1% sample error rate in an initial sample of 300 (say, 3 100% errors), it would be reasonable to extend his sample size to 590 (or about 600) since the above table shows that if the 1% sample error rate continues the same when he extends his sample (which is the most likely event) then a sample of 590 is needed before a sample error rate as high as 1% yields a UEL of the desired 2%.

The above table can only, however, be an approximate guide because:

(a) the table is only in terms of 100% errors
   - this gives the worst situation
   - the situation is not as bad if an equivalent value of smaller errors is found instead
   - for example, in a sample of 100:
     - one 100% error yields an MLE of 1% and a UEL of 4.75%
     - but two 50% errors yield an MLE of 1% but a UEL of only 4.65%

(b) the table is only in terms of overstatement errors

- the situation is slightly worse if the equivalent net
  value of sample errors is made up instead of off-
  setting overstatements and understatements
- for example, in a sample of 100:
  - 1 1% overstatement sample error frequency yields a
    UEL of 4.75%
  - but a net 1% overstatement sample error frequency
    made up of 2% overstatements offset by 1% under-
    statements yields a net UEL of 5.30%.

Nonetheless, use of this table will give a general indication
of the extent to which the sample size should probably be
increased. Of course, if the sample error rate found in the
initial sample is, say 1.6% it may be uneconomical to increase
the sample (since a total sample of well over 1,000 items
would be required) and a report under VI.1 first paragraph
p.46 may be preferable.

   Note that when a sample is extended the results of the
initial sample must not be discarded but rather incorporated
into the total cumulative sample. The cumulative sample
(initial stage plus extension) must then be re-evaluated using
the same procedures as outlined previously.

   If a sample is extended from, say, 400 to 600, it is also
important that the additional 200 selection points be drawn
randomly out of the whole population. The mechanics of
drawing the additional 200 items are the same as for the
first 400 (except, of course, a different average sampling
interval is involved). In fact, if there appears to be a
reasonable possibility that sample extension may be required,
the full 600 points can be identified in the first place (to
avoid the need to go back and count through the population of
BIUs a second time). In such a case, the initial sample
of 400 would be randomly selected out of the 600 identified
selection points (perhaps by omitting every third one), the
initial sample of 400 verified, and the additional 200
selection points only examined should the results of the
initial sample of 400 prove unacceptable.

Planning the initial sample size

The same table presented above as a guide for sample
extension can also be used for planning the initial sample
size. Referring to this table, it is clear that the initial
sample must be no less than 150 items (since a sample of
150 items barely yields a 2% UEL if no sample errors are
found). It would, however, generally be imprudent to choose
an initial sample size as low as 150 since at this size the
discovery of even one error, however small, will render the
conclusions unacceptable and necessitate sample extension.

Previous years' audit results will obviously be the best
guide. For example, if past sample error rates have varied
between 0 and 0.6% a sample size of about 300 would seem
a prudent choice. Of course, there is always the chance that
the current year results may turn out worse and the 300
prove inadequate. In such a case however, the auditor can
proceed to extend his sample size (rather than examining
an excessive sample size to start with).

It should be stressed that while estimating the required
sample size is always an uncertain business (involving, as it
does, the anticipation of what sample error rate may be
encountered), this uncertainty does not attach to the final
statistical evaluation once a sample has been chosen, verified
and the sample error rate determined, an objective statistical
conclusion can be drawn based on the evaluation procedures
described earlier.

Summary of BIU statistical sampling steps

The above procedures for conducting a statistical sample of
BIU records can be summarized as follows:

1. Based on prior years' observed error frequencies (or any
    indications of the current year's frequency) choose an
    adequate sample size (greater than 150) by reference to
    the sample extension guide.

    For example, if prior years' observed error frequencies
    have been in the range of 0 to 0.6%, an initial sample
    size of about 300 would usually be a prudent choice.

2. If there is a reasonable possibility that subsequent
    sample extension might prove necessary choose (by
    reference to the guide) a gross sample size larger than
    #1. Determine all the gross sample selection points
    counting through the BIU population either manually or
    by computer (see above discussion on sampling mechanics).
    Select the initial sample (#1) out of the gross sample
    selection points (e.g. by selecting every other one, or
    every third, etc.).

3. Verify the initial sample and determine the tainting
    percentages of any individual errors of overstatement or
    understatement discovered therein.

4. Compute the statistical conclusion arising from the
    initial sample results by completing the working paper
    form on page 60. Compare the net 'upper error limit' of
    overstatement to the prescribed 2% materiality limit.

5. If the net UEL of overstatement does not exceed 2% the
    auditor is in a position to give an unqualified
    opinion (subject to the completion and assessment of
    other audit work: internal control review, academic fee
    reconciliation, etc.).

6. If the net UEL of overstatement exceeds 2% but the net
    MLE of overstatement is significantly less than 2% (say,
    not much in excess of 1%) then there is every indication
    that an acceptable conclusion will be able to be reached
    through sample extension. Based on the sample error rate
    observed in the initial sample, and by reference to the
    sample extension guide, choose the extended sample size
    likely to be required.

7. Select additional sample items randomly (either from
    the population directly or from the additional gross
    sample selection points already held in reserve in #2)
    to increase the cumulative sample size up to the extended
    size chosen in #6. Verify these additional sample items.
    Re-evaluate the whole extended sample by re-completing

the working paper form. Compare the new net 'upper error limit' of overstatement to the prescribed 2% materiality limit. The process of sample extension can be continued in this manner until an acceptable conclusion is reached or until it becomes evident that no acceptable conclusion is possible.

8. Where the MLE of overstatement (of either the initial or an extended sample) exceeds 2% or where it is only slightly under 2% (e.g. 1.6%, 1.8% etc.) it is unlikely that any acceptable conclusion will be able to be reached through sample extension (or further sample extension). The auditor should therefore report his findings in such a case to the Ministry as called for in section IV.1 paragraph 1 page 46.

Investigation of nature of errors discovered

This appendix has been directed exclusively to the drawing of a statistical conclusion based on the frequency of errors observed in a sample of BIUs. None of the statistical work should, however, limit the auditor from evaluating judgmentally any other evidence available from the audit work. In particular, it is desirable that the auditor investigate the nature of any errors discovered in his audit sample. If any errors discovered in the sample appear to be a systematic in nature, the auditor may well wish to perform additional judgmental audit steps to assess the likely extent of such systematic errors over and above his statistical sample projections of upper error limits.

Combination with other audit conclusions

The statistical projections described in this appendix relate to the projection of a possible error frequency among the population of BIU records and the comparison of this upper error limit with the 2% materiality guideline. Of course, if other known errors are discovered outside the BIU records being subjected to sampling the effect of these known errors should be added to the statistical 'upper error limits' and the total compared to the 2% materiality guideline. For example, if an overstating addition error of 0.5% was discovered in the

summarization of the total BIU figure reported on the
enrolment reports and, on top of this, the statistical upper
error limit for overstatements among the individual BIU
records was 1.9%, the total combined 'upper error limit' would
be 2.4% (and hence unacceptable without further work).

Other considerations

A number of other considerations may well arise in the
conduct of any particular enrolment audit. For example, in
some universities the net 'weighted enrolment' is reduced
by certain cost-sharing percentages related to affiliated
colleges. These cost-sharing percentages are themselves
subject to audit and such audit may likewise be performed
using statistical sampling procedures. In the latter case
it is desirable that the statistical conclusions regarding
the gross reported BIU's and the statistical conclusions
regarding the cost-sharing percentages be combined before
comparison with the prescribed 2% materiality limit.

A discussion of this and other considerations is, however,
beyond the scope of this appendix. The auditor who has had
some training in statistical sampling techniques will be able
to resolve such matters when they are encountered.

[1]Note: With respect to the specific prescribed guidelines of 95%
confidence and 2% upper error limit, the Ministry's prescription
requires only that these be applied to net overstatements. When,
however, the auditor expresses an opinion that the "enrolment
reports present fairly the weighted enrolment" he will normally
want to satisfy himself in any event that there is reasonable
confidence that neither a material overstatement error nor a
material understatement error exists. The procedures described in
this appendix should usually be adequate to give such reasonable
assurance with respect to understatements as well as overstatements.

[2]Note: The mechanics of selecting every nth BIU are complicated if
the BIU weights are applied manually at a summary level and are
not readily available at a detail level. In some cases, this problem
can be solved by stratifying the population into groups, students
within each group having identical BIU weights. In a computerized
system, however, these problems are not as great.

[3]Technical note: This table is based on Poisson Tables, and represents
a slightly conservative (ie. safe) approximation to Binomial Tables
(the rigorous values for attribute sampling from large pupulations).
Additional conservatism arises when these values are used for very
small populations (e.g. when 20% of the population has been
covered in the sample) but the amount of this additional
conservatism (from ignoring the 'finite population correction'
factor) is slight. In any case, since both the above approximations
are conservative, the values are safe for the auditor to use (i.e. if
anything they will yield conclusions slightly more pessimistic than
those the auditor is really entitled to as a result of his sampling).
Further information as to the derivation of the above values
statistically can be supplied to any interested party.

[4]Technical notes:
1. This table represents merely the increments between successive
values shown in the previous table. The derivation of the values is
subject to the same technical note as the previous table.

2. The above method of evaluation by ranking tainted percentages
is supported by Dr. Albert Teitlebaum of McGill University and
also corresponds (except for differences in terminology) with that
outlined in Chapter V of the Research Study, "Statistical Sampling
in an Audit Context", published in March 1972 by the Canadian
Institute of Chartered Accountants. It is possible to eliminate some
of the conservatism inherent in this method by the use of a computer
program, but such a refinement is usually not significant enough
to be worthwhile.

[5]Technical note: For 95% confidence this statement is rigorous for
populations consisting of up to 3.6% overstatements offset by 1.6%
understatements. Even for 6% overstatements offset by 4%
understatements for slight inaccuracy of the statement is not large
enough to be of material consequence. Auditors should, however,
avoid using the offsetting benefit of understatements when gross
projected errors in both direction are each several times the 2%
materiality limit.

6Technical notes:
1. This table is constructed from the previous tables to show what sample
size and error combinations yield a 2% UEL.

2. Technically the values shown are only rigorous for one-stage
samples. Where a one-stage sample of 590 is found to contain 6 errors
there is 95% confidence with respect to a 2% UEL. Where a sample of
590 however, is drawn in two stages (say, 240 first plus a further
350 later) with a possibility of stopping at the end of the first
stage (in this case if only 1 error had been found in the first 240),
it can be shown statistically that there is a slight fall-off in
confidence level (in the range of a few percentage points). That is,
if 6 errors are found in total in the two-stage sample of 590, there
is not quite 95% confidence with respect to a 2% UEL as indicated
above. However, it can be shown that in the range of sample
extensions likely to be employed by auditors, such fall-off is slight.
Considering the judgmental nature of a choice of 95% confidence
in the first place, and the complexities of the statistical
refinements necessary to obtain a perfectly rigorous answer, this
slight statistical inaccuracy should not be considered of significance.

PART III

REPORT ON THE COUNTING OF GRADUATE STUDENTS

AUDIT IMPLICATIONS

Reference Formula Manual Page No:	Evidence required that	Possible Audit Test Procedures
39	Student has an honours undergraduate degree or equivalent	Examine transcript or other documentary evidence
44	Program of studies meets requirements of O.C.G.S. appraisals procedure	Where applicable, examine evidence of successful program appraisal
39	Student is making substantial demands on resource of the university	Obtain certificate (see form attached)
45	No units have been claimed for students registered but inactive	"
40	Student claimed as full-time geographically available and visits campus regularly	"
40	Student has not been absent for four weeks in any term without required approval	"
40	Student's employment, if any, does not involve more than 10 hours per week	"
40	Student has not been employed outside the university except by supervisor's permission	"
39	Student identifies himself as a full-time graduate student	This should be verified by reference to student records (statement of intent, etc.)
24	Minima and maxima provisions have been adhered to:	(a) examine, on a test basis, units claimed during the academic year under these provisions
		(b) Assess the adequacy of records and procedures for the correct determination of these claims
		Review of internal control

General   Adequate records and procedures have been established for the counting of graduate students for entitlement purposes.

CERTIFICATION OF GRADUATE STUDENT
STATUS AND ELIGIBILITY FOR FORMULA
OPERATING GRANT SUPPORT

To: (Name of Auditors)_____Term of 19__19__ Session

Name of Student
claimed for support:_____Program of Study:_____

Status reported   ☐ Full-time   ☐ Part-time

	Yes	No
(i) This student made substantial demands upon the resources of the university (i.e. either the student was registered in a regular course of study or was actively engaged in writing a dissertation under continuing supervision).	____	____
(ii) For students accorded full-time status:		
(a) Apart from approved absence (see Item (b))was student geographically available and did he visit the campus regularly?	____	____
(b) If the student was absent from the university for a period exceeding four weeks, was such absence approved as required?	____	____
(c) Was it satisfactorily established that the employment restrictions in regard to the student being claimed for entitlement were complied with?	____	____